FLIGHT PERFORMANCE ENVELOPE OF UAVS FOR IN-SITU SCIENCE IN TITAN'S ATMOSPHERE

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ABSTRACT

A number of probe and aerobot studies for Titan in-situ science have been developed, and these have been refined using new models following the Huygens experience. Detailed designs for balloon and UAV/aerobot systems are in development in various groups. The present project is a short final year student project concerned with contributing to the feasibility of UAV concepts for Titan. In particular, the flight performance envelope for an existing airframe design is developed and analysed, the impact of the envelope upon the scientific objectives and operational aspects of the mission flight are described, and recommendations for further analysis are identified.